DOCUMENT RESUME

ED 177 963 HE 011 825

AUTHOR Bowen, Howard R.
TITLE Is College Worth the Cost?
INSTITUTION Council for Financial Aid to Education, New York, N.Y.
SPONS AGENCY Ford Foundation, New York, N.Y.
PUB DATE Apr 78
NOTE 24p.
AVAILABLE FROM The Council for Financial Aid to Education, 680 Fifth Avenue, New York, NY 10019

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *College Attendance; College Graduates; Cost Effectiveness; Economic Factors; *Educational Accountability; Educational Assessment; *Educational Benefits; *Educational Economics; *Higher Education; *Student Development

ABSTRACT

Whether college is worth what it costs is reviewed in this summarization of the author's book, "Investment in Learning." A survey of the literature leads to the following four conclusions. (1) that the economic returns of higher education, in the form of higher earnings, improved technology, and a higher gross national product, alone offset the costs; (2) that the noneconomic returns, in the form of human development, the cultural advancement of society, and national security, are at least as valuable as the economic returns; (3) that the direct personal satisfactions are substantial; and (4) that the total returns exceed the costs by several times. The differences among institutions of higher education are suggested to be less in their educational impact than is commonly thought, when allowance is made for differences in the individual student's background about ability. A rationale for deciding on further expansion of higher education is presented in the concluding section. (Author/PHR)

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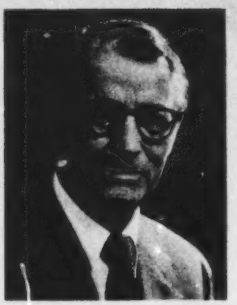

Answering the Question of the Hour

In his latest book, *Investment in Learning*, Howard R. Bowen looks into the question that people are asking today with increasing frequency, "Is college worth the cost?" and comes up with some provocative insights. A summary of these insights follows, as presented to the Board of Directors of the Council for Financial Aid to Education (CFAE), of which he was twice a member. This short summary is sufficient, we believe, to give you the full range of Dr. Bowen's insights and provocative enough, we hope, to inspire some of you to read the book itself (460 pages, not counting references and indices).

Dr. Bowen is uniquely qualified to write upon this subject because he has served as the president or chancellor of three major institutions of higher education: two private, Grinnell College (1955-64) and the Claremont University Center (1970-74); and one public, the University of Iowa (1964-69). His career has included service in business and government also, as chief economist of the Joint Committee on Internal Revenue Taxation of the U.S. Congress (1942-45) and economist at the Irving Trust Company, a Wall Street bank in New York City.

Since resigning from the chancellorship of Claremont, Dr. Bowen has been R. Stanton Avery Professor of Economics and Education at the Claremont Graduate School. A graduate of Washington State University, he received his Ph.D. in economics from the University of Iowa (1935) and has done postdoctoral work at Cambridge University and the London School of Economics.

He has served on numerous boards and received many honorary degrees and awards. He is author or co-author of nine books. His latest, *Investment in Learning*, was prepared with the collaboration of Peter Clecak, Jacqueline Powers Doud and Gordon K. Douglass, with the support of the Sloan Foundation. It was issued by the Carnegie Council on Policy Studies in Higher Education and published by Jossey-Bass Publishers, 615 Montgomery Street, San Francisco, Ca. 94111.

This publication was made possible
by a grant from the Ford Foundation.

Is College Worth the Cost?

Is American higher education worth what it costs?

It costs a great deal. To operate our colleges and universities and maintain their capital requires about $46 billions a year. In addition, the costs connected with the attendance of more than 11 million students—counting transportation, books, miscellaneous expenses, and the earnings they give up by being in college—total perhaps $39 billions. The grand total is around $85 billions or about 5 percent of the gross national product (GNP).

When an "industry" reaches this magnitude, many people are bound to ask whether the outcomes are worth the cost. Perhaps the best answer to this question comes from that eminent educator, Ann Landers. In one of her columns she observed, "If you think education is expensive, try ignorance." Nevertheless, in recent years, there has been a good deal of skepticism about the value of higher education.

The traditional faith of the American people in education has been shaken. The first shock was the student unrest of the 1960s. Then came a deep concern about mounting costs and the fear that the nation could not afford continued expansion of higher education. More recently, there have been concerns as to whether we are trying to educate more students than are qualified for college work, and many have been questioning whether the labor market can supply enough jobs for all the college graduates. A series of books has recently appeared with horrendous titles. On the matter of jobs Ivar Berg speaks of *Education and Jobs: The Great Training Robbery,* Richard Freeman writes about *The Overeducated American,* Caroline Bird states *The Case Against College,* James O'Toole writes of *The Reserve Army of the Underemployed,* and

Kenneth Arrow discusses *Higher Education as a Filter.*

Regardless of the many criticisms of higher education, some valid and some specious, there is great need for greater accountability, that is, for serious evaluation of results both at the level of individual colleges and universities and at the level of the national system of higher education. The old unsubstantiated assertions and the clichés so prevalent in college catalogs and commencement addresses are not enough. In my book, *Investment in Learning,* I tried to produce a kind of cost-benefit analysis for the American system of higher education by reviewing the actual evidence on the outcomes of higher education. I tried to address the question: "What do the American people actually get for the $85 billions they spend directly or indirectly on higher education?"

Substantial Evidence Available

I found that there is a vast literature on the outcomes of higher education. Literally thousands of serious studies have been made by economists, psychologists, sociologists, historians, and educators about the results of higher education. These studies are fragmentary, scattered, and of uneven quality, but collectively they provide substantial evidence about the impact of higher education on its students and on society.

Most of these studies compare freshmen with seniors, college students with persons of the same age who did not attend college, or college alumni with comparable persons who did not attend college. Some of the studies use historical, philosophical, or economic analysis, and some use the more

intuitive methods of social criticism. Some rely on the subjective reports of people who attended college. But they add up to impressive and well-documented conclusions.

The impact of this evidence comes not from startling revelations about dramatic impacts of college but rather from the cumulative piling up of thousands of small pieces of evidence, almost all of which point to significant positive effects of higher education. The evidence leads unmistakably to the conclusion that higher education, taken as a whole, is enormously effective and productive.

The major conclusions are: (1) that the economic returns of higher education in the form of higher earnings for people, improved technology, and higher GNP for society are alone sufficient to offset all the costs; (2) that the noneconomic returns in the form of human development, the cultural advancement of society, and national security are at least as valuable as the economic returns; (3) that the direct personal satisfactions associated with going to college plus the lifetime personal satisfactions flowing from college education are substantial; (4) that the total returns from the work of our colleges and universities in all their aspects exceed the cost by several times.

What I have found is not that college education produces miracles or performs conversions. Rather it operates in many ways, and its impact comes about through an accumulation of many small effects, not in most cases through dramatic breakthroughs. But the cumulative evidence leaves no doubt that American higher education is well worth what it costs.

This conclusion was reached by considering in detail the effects of higher education upon students

as individuals and upon society at large. In both cases colleges and universities were found to exert their impact through their day-by-day work in instruction, through their major contributions to knowledge and the arts, and through their numerous public services. Let me now summarize some of the specific outcomes of higher education beginning with the effects on individual students.

Effects of College on Students

The effects, of course, are not the same for all students; each responds to the college experience in his or her own unique way.

On the average, college education produces substantial increases in knowledge, moderate increases in ability to read and write, and small gains in mathematical skills. (The latter is explained by the fact that only a small minority of students studies mathematics in college.) It contributes significantly to intellectual breadth and tolerance in the realm of ideas. It also is favorable to appreciation of the arts.

College also has important effects on the emotional development of its students. On the average, but with wide individual differences, college helps students find their personal identity—their values and their aspirations—and it helps them in making lifetime choices not only in careers but also in the selection of friends, spouses, interests, and life style. It has a moderately favorable effect on their psychological well-being.

College makes people less rigid and dogmatic. It encourages their understanding and tolerance toward various ethnic and national groups and toward people holding different opinions. It leads to relativism and tolerance in the area of personal

morality and to a moderate decrease in conventional religious interest and observance, though the current resurgence of Evangelical Christianity and Far Eastern religious thought, and the boom in enrollments in courses on religion, suggest that college does not suppress religious inquiry and concern. College also appears to narrow the traditional differences in interests and attitudes between men and women. It increases the interests of women in careers, public affairs, sports, etc., and increases the interests of men in the family.

College is popularly valued in terms of its effect on the future earning power of its students and is often publicly defended on the basis of its contribution to future citizenship. College does indeed affect favorably the economic productivity and the citizenship of its students, but it also contributes to their competence as family members and consumers, and it influences their leisure activities, their health, and their general ability to cope with life's problems.

In the domain of citizenship, college-educated people tend to have a somewhat more liberal outlook than others, they are better informed, much more likely to participate in community affairs and to vote, and more skilled in practical politics.

In the economic sphere, college assists its students by giving them basic skills that are useful in most of life's endeavors—ability to speak and write, knowledge and ability to learn, rationality, tolerance, orientation toward the future, adaptability, and self-confidence. It helps its students in self-discovery and in choosing and finding careers consistent with their talents, interests, and aspirations. It provides vocational training for a large minority of its students. As it turns out, college-

educated people—especially women—are more likely than others to be in the labor force. College-educated people work longer hours than others and experience less unemployment. And, of great importance, they are more alert to opportunities, more mobile, and more adaptable. They respond more promptly and appropriately to changing economic conditions.

By far the most dramatic and most important practical impacts of college are in the domain of family life. Higher education, of course, affects the selection of marriage partners. It also tends to delay the age of marriage and probably to reduce the birth rate. (Recent developments in family planning have reduced the difference in birth rates between college-educated and other people.) But far more important than any of these, it greatly increases the thought, time, energy, and money devoted to the rearing of children, and this shows up in child development among the children of college-educated people as compared with the children of people with less education. The effects of college, in other words, are transmitted down the generations and are thus multiplied perhaps several times.

College education helps people to function more effectively as consumers and investors and thus to get a greater return as they use their incomes.

College education is associated with better health, with the causation running from education to health and not the other way. In fact, the relation between education and health is so strong that some authorities have suggested that greater returns in the form of public health would be achieved by expanding and deepening education rather than by enlarging the health-care system.

College-educated people cope more effectively with the myriad daily problems of life such as getting credit, enforcing contracts, avoiding fraudulent investments, seeing through misleading advertising, preparing tax returns, getting legal help, petitioning public officials, getting property assessments reviewed, and so on.

Effects of College on the Whole Person

The changes in individuals associated with college as described above refer to *average* changes, but particular individuals deviate widely from the averages. Some change more and some change less with respect to each kind of ability, interests, or achievement. Moreover, any given individual will change more in some respects than in others. Some may excel in mathematics and do less well in aesthetics or tolerance; others may advance in human understanding and make no progress or even regress in mathematics; others may become deeply interested in religion and not advance in the skills and interest related to citizenship. Because of these individual differences, the results presented above in the form of averages tend to understate the real changes that take place in the lives of people through the college experience. Very important results may be achieved—whole lives may be transformed—while the average specific outcomes of education may be quite small.

To observe the entire effects of education on people as whole individuals, it is necessary to find evidence about the overall impact. Many studies over several decades reveal that both students and alumni have overwhelmingly favorable opinions about the effects of college on their own lives. And the general public also holds strongly favorable

views toward college education. Perhaps the most persuasive evidence that the college experience is highly valued is that the ratio of enrollment to population of ages 18 to 21 has risen from .28 in 1955 to .51 in 1975 (and the trend may still be upward), and also that the attendance rate for the children of college-educated people is much higher than that for the children of less-educated parents —even after allowance is made for income differences between the two groups.

Along the same line, one of the benefits of attending college is simply the satisfactions that come from the attendance itself—from the learning, the stimulus of interesting people and ideas, the sociability, the pleasant surroundings, and the memorable experiences. College also opens up to many people new interests, new awarenesses, and new understandings that are an important basis of lifetime satisfactions. These direct consumer benefits are a significant part of the total benefits, especially since four college years make up about 5 percent of an average human life.

Some Dollar Estimates of the Value of College

It would be convenient if one could assign a neat dollar value to the sum of all the benefits of higher education. This is clearly impossible. However, one can make some calculations that may reflect orders of magnitude if not precise figures.

In many contexts it is necessary to estimate the value of a human life—in damage suits, decisions relating to expenditures for safety on highways, in airplanes, or at workplaces, etc. These estimates produce numbers ranging from $400,000 to $700,000 as the value of a life (in 1977 dollars). If one were to assume that all the benefits of college de-

scribed above would "improve" the average person by a modest 10 percent, then the benefit would be $40,000 to $70,000, which compares with the cost of an average college education (including institutional costs plus costs borne by students) of about $40,000. On these assumptions, college-going "pays."

Another way of looking at the matter is to consider the contributions of college education to the growth in national income. Over the period from 1929 to 1969, the estimated growth in annual national income attributable to higher education was roughly $20 billions. The annual cost of higher education over this period was $11 or $12 billions, suggesting that higher education had paid its way handsomely—even though the many noneconomic benefits are not counted in these calculations.

Another approach to the question is that of the many economists who have made estimates of the "rate of return" to investments in higher education.[1] The great majority of the rate-of-return estimates have been in the range of 8 to 15 percent, though some have been as low as 4 percent and some as high as 20 percent. The percentages of 8 to 15 are in the same range as the rate of return to ordinary investments. If investments in higher education produce rates of return comparable to those derived from ordinary investments, when the returns include only monetary earnings, then the

[1]The investments are considered to be the sum of the costs of operating all the colleges and universities in the country, the foregone income of all the students, and their incidental costs of college attendance. The return consists of the future stream of increased earnings resulting from attending college. The rate of return is the annual increment in earnings as a percentage of the investment after allowance for depreciation of the investment.

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total returns to higher education including all the nonmonetary benefits must be substantially higher than those earned from ordinary investments. One attempt to measure the rate of return including all the benefits suggests that the return may be well above 22 percent. Again, the higher education appears to pay off handsomely. All of these calculations, however, are no more than rough indications of orders of magnitude and should not be regarded as definitive.

Outcomes for Society

The impact of higher education upon society is partly a byproduct of the education of individuals. The induction into society of millions of educated persons will inevitably modify the social environment. It will influence the prevailing patterns of interests, values, attitudes, and behaviors. And as educated people take on professional and leadership roles as they are likely to do, the influence may be magnified. The result may be changes in the birth rate, child care, appreciation of the arts, health, voting behavior, civic participation, general willingness to seek and accept change, etc. It is no accident that the campus and its alumni have had an important part in the quest for racial equality, the ending of the Viet Nam war, the women's movement, the eighteen-year-old vote, consumerism, and the environmental movement.

Important social effects of higher education are also achieved through a wide variety of activities known as *research and public service*. The university is headquarters in our society for basic scientific research which produces an exceptionally high return on the investment. Its return—in the form of increased economic productivity, better health,

better working conditions, etc., [illegible]ufficient alone to compensate for the expenditures on all academic research and public-service activities.

Higher education is the chief center for research in the social studies which is essential to people's understanding of themselves and of their society. The social studies provide much of the data to monitor the performance of the society, and the findings of social-science research have a multitude of applications to practical decision-making in both public and private affairs.

Colleges and universities also bear the responsibility of preserving the cultural heritage and advancing the civilization. They perform this function through their continuous work in the areas of scholarship, philosophical and religious inquiry, social criticism, public-policy analysis, and cultivation of the fine arts. There is no way of placing a dollar value on the outcomes of these activities—who can tell the value of preserving and interpreting the literature and artifacts of the past, of discovering and defining the meanings and purposes of human life, of explaining and appraising broad social trends, of formulating considered recommendations for public policy, and of fostering the fine arts?

Colleges and universities also engage in a great variety of public services which contribute enormously to societal welfare. They provide the public with health care, libraries and museums, dramatic and musical performances, and recreational facilities and programs. They also provide a standby pool of knowledge and expertise to be drawn upon when needed in connection with problems that may arise in government, households, farms, businesses, labor unions, or schools.

Society looks to the academic community not only for information and advice but also, in many cases, for actual execution and administration of programs. Universities and colleges dispatch foreign technical missions, administer governmental laboratories, dispense technical services and training for private corporations and farmers, and provide a host of consulting services to government and industry. Some of this work is conducted officially under the auspices of the institutions and some by professors in their "spare time." Indeed, a new breed of professors has emerged who move easily between the academic world and business or government. Such professors are called upon to serve in the cabinet and in the civil service, they are elected to public office, they become members of special commissions, they are sent on foreign missions, they are consulted on many kinds of political, technical, and diplomatic issues by government at all levels, by private business and by other organizations. Higher educational institutions are generous—some think too generous—in allowing their faculty members to do part-time consulting or to take leaves for the purpose of serving government, foundations, unions, corporations, trade associations, and other organizations over extended periods of time. American society and higher education probably are both enriched by the frequent interaction between the campus and public affairs —though the intellectual objectivity of the college or university can be compromised and its main business can be neglected through excessive involvement in practical affairs.

Finally, higher education may contribute toward social equality among persons. As higher education is widened to include an ever-larger proportion

of the people, the relative earnings and social position of educated people may decline while the relative earnings and social position of less-educated people may rise. Sometimes, higher education is criticized because the spread of education tends to lower the relative economic rewards from it. But a society that professes to care about human equality would regard this result as one of the desirable outcomes of education. Education has an advantage over other avenues toward equality—such as graduated taxes and public assistance—because it can reduce inequality in what people *are* and what they can *contribute,* not merely in what they *get*.

Differences Among Institutions

The book is concerned primarily with the broad effects of the nation's entire educational system. The question posed is: "What do the American people get for the $85 billions they spend on higher education?" However, one may reasonably ask: "Are there differences among particular colleges and universities, or among various types of institutions, in the kind and amount of impact?" This question was considered in some detail. It was found that the differences among institutions in their educational impact is less than is commonly supposed when allowance is made for differences in the ability, background, and other characteristics of the students admitted. Though the graduates of different institutions vary greatly, differences in the degree and direction of *change* in these students as a result of college are moderate. Obscure institutions often achieve as much change, in some cases even more, than the richest and most famous institutions. However, this conclusion must

be tempered by the finding of economists that the lifetime earnings of graduates who attended wealthy institutions are enough greater to justify the additional investment in institutional excellence.

Postscript on the Future of American Higher Education

The final chapter of the book deals with implications for the future. The conclusion that higher education, as we know it, "pays" does not imply that the great expansion of higher education in recent decades should be continued. Expansion could be justified only if successive increments of cost would produce equal or greater increments of benefit. But the amount of the incremental benefits would be hard to estimate except intuitively. In our judgment, the incremental benefits would be substantial. However, the future of higher education need not rest on guesses about such possibilities. It should be decided on *moral* grounds based on the following propositions:

1. That higher education contributes to the cognitive and affective qualities and the practical competence of people as individuals and is therefore conducive to their full development as whole human beings.
2. That higher education enhances the quality of social life in many ways.
3. That the number of persons who could benefit from higher education greatly exceeds the number who now partake of it, especially if diverse programs of higher education were widely available.
4. Given these three propositions, a moral imperative follows. It is that on moral (not economic) grounds, each person should have the

opportunity, and the obligation as well, to develop fully his or her unique personal powers.

The proposal to push ahead with the expansion of higher education raises serious practical doubts. It is widely believed that the expansion of higher education might increase the supply of people aspiring to technical, professional, and managerial jobs beyond the capacity of the economy to employ them. At best, it is often argued, the expansion would lead to unemployment and discontent, and at worst to social upheaval. This argument raises a serious moral issue, implying as it does that a large part of the population with the potential for personal development through higher education should be held down deliberately to lives of relative ignorance. Such an outcome would be indefensible. The argument also is questionable from the economic standpoint. It assumes that the economy offers a more or less fixed inventory of jobs to which the labor force must adjust. On the contrary, there is a mutual adjustment between the jobs the economy provides and the jobs the workers want. The economy can and does adjust to the workers that are available. For example, in the past, as the number of people presenting themselves for manual work has decreased and the number seeking white-collar work has increased, the economy has adjusted partly through technological change and partly through change in the mix of goods and services produced. Millions of unpleasant and monotonous jobs have been automated, and many goods and services that are dependent on menial labor have virtually disappeared from the market —for example, household service, ditch-digging, and shoe-shining. Indeed, the continued existence

of many menial jobs has been due to immigration of uneducated and unskilled workers. Meanwhile the relative number of white-collar jobs has increased steadily until now these jobs represent more than half of total employment. Despite all these changes, unemployment among college-educated people has been consistently less than among noncollege workers.

In the future as in the past, the potential incremental returns from the expansion of higher education will be in the fulfillment of individual lives and the building of a humane civilization, as well as in raising the earnings of individuals and in augmenting the gross national product. The real question then must be not, should we go forward with the advancement of higher education, but dare our democracy aspire to anything less?

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CFAE was founded in 1952 by five prominent business leaders, the chairmen of United States Steel, General Motors, Exxon, Container Corporation and Armstrong Cork. The chairmen were Irving S. Olds, Alfred P. Sloan, Jr., Frank W. Abrams, Walter P. Paepcke and Henning W. Prentis.

CFAE staff members call personally upon hundreds of top-echelon businessmen every year to explain the financial needs of higher education and to enlist corporate support in meeting them. CFAE also conducts seminars and offers counseling services for corporate and college administrators. It publishes an annual report on voluntary support received by colleges and universities, an annual report on corporate support of higher education, special studies in fields related to educational philanthropy, "How to . . ." manuals and other materials designed to broaden the base of educational support.

CFAE sponsors the nationwide public service advertising campaign, "Give to the college of your choice," through the Advertising Council. This campaign has elicited as much as $25 million worth of free time and space from the media in a single year.

CFAE itself neither solicits nor disburses funds for higher education. Originally funded by four major foundations—the Carnegie Corporation of New York, the Ford Foundation, the Rockefeller Foundation and the Alfred P. Sloan Foundation—CFAE now draws its support from more than 375 leading American corporations.

In this, its twenty-fifth anniversary year, CFAE is calling for a national reaffirmation of the importance of higher education to the future of our country and a rededication to meeting more of the needs of our colleges and universities through voluntary support.

April 1978